234 b 13

OBSERVATIONS UPON THE GROWTH AND CULTURE OF VINES AND OLIVES: THE PRODUCTION OF SILK: THE PRESERVATION OF FRUITS.

WRITTEN AT THE REQUEST OF
THE EARL OF SHAFTESBURY:
TO WHOM IT IS INSCRIBED:

BY MR. JOHN LOCKE.

NOW FIRST PRINTED FROM THE
ORIGINAL MANUSCRIPT IN
THE POSSESSION OF THE
PRESENT EARL OF
SHAFTESBURY.

LONDON:
PRINTED FOR W. SANDBY, IN FLEET STREET.
M DCC LXVI.

OBSERVATIONS UPON THE GROWTH AND CULTURE OF VINES AND OLIVES: THE PRODUCTION OF SILK: THE PRESERVATION OF FRUITS.

WRITTEN AT THE REQUEST OF
THE EARL OF SHAFTESBURY:
TO WHOM IT IS INSCRIBED.

By Mr. JOHN LOCKE.

NOW FIRST PRINTED FROM THE
[illegible]
THE POSSESSION OF THE
PRESENT EARL OF
[illegible]

PRINTED FOR W. SANDBY, IN FLEET-STREET.
M DCC LXVI.

THE EDITOR

TO THE READER.

AT this time, when every improvement of the garden is ſo much the ſtudy and delight of our countrymen; when artificial means have been diſcovered to ſupply every defect of climate, and the vegetable productions of every other region of the globe have been raiſed in our own ſoil; it is preſumed the following ſmall tract, printed from a manuſcript, very neatly written by Mr. JOHN LOCKE, with his uſual accuracy, will be no unwelcome preſent to the public.

SUBJECTS of curioſity and inſtruction to the inquiſitive philoſopher and his noble patron will, doubtleſs, be entertaining to every reader.

SHOULD it gain a paſſage to America, it will be of far more extenſive uſe both to that country and to Britain.

No union, no alliance is ſo firm and laſting as that which is founded upon the ſolid baſis of a mutual intereſt.

NECESSITY, natural or artificial, is the real cauſe and ſupport of Trade and Navigation. Our commerce with Spain and Portugal and other countries will ſubſiſt under every change of government or inhabitants, whilſt we are in want of the productions of their ſoil and induſtry.

POLITICIANS, who ought to know how commerce, and conſequently naval force has fluctuated in the world, will take care not to oppreſs by very heavy and improvident taxations, their manufactures and other articles of trade at home, nor ſuch commodities imported from abroad as may diſpoſe other nations to cultivate thoſe very articles among themſelves, which they have hitherto received from us.

HOWEVER populous and great, induſtrious and rich, the ſettlements in the vaſt continent of America may hereafter become, this the mother country may for ever be connected with it more intimately than the ſouthern nations, by encouraging the growth and produce of Vines and Olives, Silk and Fruits, which cannot advantageouſly be raiſed in England: and ſound policy will always engage the ſubjects in England and America not to be rivals in trade, by ſetting up ſuch manufactures in one country as muſt neceſſarily diſtreſs the other.

THE wiſdom of this country will inſtruct governors to do all that is poſſible to promote the linen manufacture in Ireland; and the wiſe and good in both kingdoms will never deſire ſuch uſe of their wool and their ports as muſt be directly prejudicial to England.

THE moſt perfect harmony will ſubſiſt between Great Britain and her colonies as long as Britiſh ſubjects, cemented by blood, by mutual intereſt and commerce, continue friends to liberty and the proteſtant religion, and ſucceſſion in the preſent Royal Family; this is a true and laſting FAMILY COMPACT: all which ineſtimable bleſſings will be rendered permanent and inviolable by the fleets of England, which, whilſt the Britiſh empire is united, will be ſuperior to all other powers in the world.

The editor cannot take his leave of the reader without obſerving, that very important ſervices have been done to America by a plan of government drawn up for the province of Carolina by Mr. Locke, under the direction of that eminent and able ſtateſman the firſt Earl of Shafteſbury; and by the preſent Earl of Shafteſbury as an active and zealous Truſtee for the colony of

Georgia, from which, in time, we may expect a conſiderable quantity of raw ſilk will be imported into England.

WINES are natural to the ſoil of many parts in America; and if olive-trees are planted in ſuch provinces as are moſt proper for the growth of them, the planters will ſoon be enriched, and England relieved in ſeveral articles made from this profitable fruit, and which are neceſſary to the ſupport of every individual and every manufacture in the kingdom.

Temple,
March 1766.

G. S.

TO THE RIGHT HONORABLE

ANTHONY

EARL OF SHAFTESBURY.

MY LORD,

THE country where theſe obſervations were made hath vanity enough to over-value every thing it produces:

and it is hard to live in a place and not take ſome tincture from the manners of the people. Yet I think I ſhould ſcarce have ventured to trouble your Lordſhip with theſe French trifles, had not your Lordſhip yourſelf encouraged me to believe, that it would not be unacceptable to you, if I took this way (for I ought all manner of ways) to expreſs that duty and obſervance wherewith I am,

MY LORD,

Your Lordſhip's moſt humble

and moſt obedient ſervant,

Ch. Ch.
1 Feb. 1679.

JOHN LOCKE.

WINE.

IN Languedoc they plant their vineyards in February; and they chooſe the quarter before the full, as the fitteſt time of the moon to do it in.

They ſet the cuttings they plant exactly in quincunx, and the rows at four and a half, five, and ſix pans diſtance.—A pan is $9\frac{5}{8}$ inches.

About Tholoun in Provence, and alſo about Bourdeaux, I have ſeen vines and corn interchangeably; viz. two or three rows of vines and then a ridge or two of corn.

They ſet their plants about a ſpit deep, and always leave two knots above ground.

In ſetting the vines, they dig the ground ſometimes all over, ſometimes only in trenches.

They plant their vineyards both in plains and on hills with indifferency; but ſay that on hills, eſpecially opening to the eaſt or ſouth, the wine is beſt: in plains they produce moſt. The ſoil about Frontignan, where the beſt muſcat grows, is ſo ſtony, that one can ſee no earth at all. And the vine de Pontac, ſo much eſteemed in England, grows on a riſing opening to the weſt, in a white ſand mixed with a little gravel, which one would think would bear nothing; but there is ſuch a particularity in the ſoil, that at Mr. Pontac's near Bourdeaux the merchants aſſured me that the wine growing in the very next vineyards, where there was only a ditch between, and the ſoil to appearance perfectly the ſame, was by no means ſo good. The ſame alſo they obſerve about Montpellier, where two vineyards bounding one upon another conſtantly produce the one good and the other bad wine.

A VINEYARD from its planting will laſt fifty, eighty, or an hundred years. The older the vineyard the fewer the grapes, but the better the wine. New-planted vineyards produce more, but the wine not ſo good: it is generally green, i. e. more inclining to verjuice.

The vineyard thus planted, the next year at pruning they cut them ſo that (if conveniently there can) there may be four ſhoots next year near the ground, at leaſt three, ſpreading ſeveral ways, which may come to be ſo many ſtanding branches, out of which the ſhoots are to ſprout. There being thus left the beginnings of three or four branches ſpreading different ways, ever afterwards, when they come to prune they leave about an inch of that laſt year's ſhoot which grew ſtrait out of the top of each of the four ſtanding branches; all the reſt they cut off clean to the old ſtock.

If by chance they find (when they are pruning) a vine decayed or gone in any place, they dig a trench from the next ſtock to that place, and laying the old ſtock along in the trench, order it ſo that one laſt year's ſhoot of the ſaid ſtock ſhall come out juſt where the laid ſtock grew, and another where there was one wanting: theſe they cut off about eight or nine inches above the ground, which being fed by the great old root (which they move not when they lay the old ſtock, but ſo looſen it only as it may let the old ſtock be gently bent down, and ſo be buried in the trench) will bear the next vintage; whereas if they planted a cutting in the place where they found a ſtock wanting, it would not bear in three or four years. By theſe young plants they ſtick in a good ſtrong branch, a pretty deal longer than the plant, which they leave there to defend it.

They prune their vines in December, January, February, and March: they that do it ſo late as the latter end of February or the month of March, are ſuch as have vineyards apt to ſhoot early in the ſpring; and if cold weather nip the young ſhoots, they have the fewer grapes at the vintage. And in pruning their vines they obſerve to do it one year in the new and another in the old of the moon, or elſe they ſay they will grow too much to wood.

THEY turn the ground of their vineyards twice a year; about the end of February or in March, and again in May: they do it either by ploughing betwixt the rows of vines, or, which they count better, by digging, in which they ſometimes uſe little ſpades, but moſt commonly large houghs, the uſual way of delving in this country; in which way they turn up the earth as deep and much faſter than our men do with ſpades in England.

Pigeons dung and hens dung they make uſe of in their vineyards as an improvement that will increaſe the quantity without injuring the goodneſs of their wine: but horſe dung, or that of any beaſt, they ſay, ſpoils the goodneſs of their wine. This they have ſo ſtrong an opinion of at Galliac, a place about thirty leagues from Montpellier, that if a peaſant there ſhould uſe any but birds dung about his vines, his neighbours would burn his houſe; becauſe they would not have the wine of that place loſe its reputation.

I have been told that a ſheep's horn buried at the root of a vine will make it bear well even in barren ground. I have no great faith in it, but mention it becauſe it may ſo eaſily be tried.

BUT I ſuppoſe the huſbandry in their vineyards differs much, both according to the faſhion of ſeveral countries and the difference of ſoil; for I remember that at Mr. Pontac's vineyard near Bourdeaux, the vines in ſome parts of the vineyard grew four or five feet high, and were tied to ſtakes; and in another part of the ſame vineyard they were directed along upon the ground, not above a foot from it, between little low ſtakes or laths, ſo that the old branches ſtand on each ſide the root like a pair of arms ſpread out, and lying open towards the ſouth. The reaſon of this different way of culture I could not learn of the labourers for want of underſtanding Gaſcoin. In Languedoc they uſe no ſtakes at all to ſupport their vines, but they truſt them to the ſtrength of their own growth, pruning them as I have above mentioned; which makes them ſay in the more northerly parts of France, that in Languedoc they have wine without taking pains for it.

When the grapes are ready to turn, they go into the vineyards, and there taking four, five, or ſix of the neighbour ſhoots, twiſt them together at the top, and thus the ſhoots all through the vineyard, being as it were tied together, ſtand upright, whereby the grapes have more ſun, and perhaps the ſap too is hindered from running into the wood and leaves.

They have about Montpellier theſe following ſorts of grapes:

1. Eſpiran.
2. Eſpiran verdau.
3. Tarret.
4. Barbaroux.

5. Grumeau negre.
6. Grumeau blanc.
7. Grumeau blanc muſcat.
8. Laugeby.
9. L'ougré.
10. Raiſin de St. Jean.
11. Marroquin.
12. Marroquin gris.
13. Marroquin bleu.
14. Clarette.
15. Clárette rouge.
16. Ovilla de negre.
17. Ovilla de blanc.
18. Covilla de Gal.
19. Ramounen.
20. Unio negro.
21. Unio blanquo.
22. Corinth.
23. Effouimu.
24. Iragnou.

25. Piquepoul.
26. Farret.
27. Piquardan.
28. Muſquat negre.
29. Muſquat blanc.
30. Muſquat d'Eſpagne.
31. Paloſedo.
32. Servan.
33. Damas violet.
34. Raiſin de la fon.
35. Sadoulo boyyier.
36. Sergouſan.
37. L'ambruſque.
38. Rovergas.
39. Coltort.
40. Muſquadaſſas.
41. Criſpata.

THESE are the names of grapes they have about Montpellier, as they are called in the pattoy of that country.

1. The eſpiran, round, black, very ſweet and very wholſome grape: they eat them in great quantities when thorough ripe (which is about the middle of Auguſt ſtilo novo) without any fear of ſurfeit; and they are often preſcribed by phyſicians to be eaten plentifully. I think them one of the beſt fruits in the world. Theſe alone, of all the red grapes, make good wine by themſelves; but they plant them not in ſo great quantities as the other ſorts, becauſe in hot and dry ſeaſons they will dry up before they are ripe.

2. Espiran verdau, or the green eſpiran, called ſo from its colour; an admirable grape alſo to eat, though not altogether ſo delicate as the black eſpiran; but its excellency is, that it will keep long in the winter for eating; and I have eat very good of them at Chriſtmas.

mas. Their way of keeping them is to gather them when ripe, and ſo hang them up, every bunch ſingle, to the roof of a cloſe room.

3. TARRET is a black, very large, but not very ſweet grape, and therefore uſed only for wine; wherein it gives a very large quantity, but not much ſtrength.

5. GRUMEAU negre, or the black grumeau, is an exceeding large grape, very fleſhy and well enough taſted, of the faſhion of a pear. I have ſeen one ſingle grape of this ſort which was in compaſs above $3\frac{1}{2}$ inches Engliſh meaſure, and in compaſs the long way $3\frac{3}{4}$, and weighed of their weights ℥ ſs. ℈j. gr. iij. and all the reſt of the grapes of the ſame bunch proportionable; but I have not obſerved them ordinarily planted in their vineyards.

10. **Raisin** de St. Jean is a ſort of grape which they have only at the phyſic garden at Montpellier: it came from India; it is a black grape, very good, ripe at Midſummer (and therefore called St. John's grape) two months before any of the other ſorts.

11. **Marroquin**, very black, large, fleſhy, round grape, very good to eat, but ſeldom uſed in wine.

14. **Clarette**, white, longiſh, middle-ſized, ſweet, good to eat, and good for wine.

19. **Ramounen**, black, very ſweet, middle-ſized, good for wine, and eating.

22. **Corinth**; this we have in England; and I do not find they uſe it much there for wine.

25. PIQUEPOUL, black and very ſweet, good for wine and for eating.

27. PIQUARDAN, white, long, large, very ſweet, with a little of the muſcat taſte in it; makes very good wine alone or mingled.

29. MUSQUAT blanc, or white muſcat; this is uſually planted and preſſed alone, and makes the wine we uſually call Frontiniac, from Frontignan a town on the Mediterranean, near two or three leagues from Montpellier, where the moſt and beſt of this ſort of wine is made. It is a pleaſant grape and early ripe, before the other ordinary ſorts; but they are not near ſo good to eat as the eſpiran, being apt to fume to the head and make it ache.

32. SERVAN, long, large, white, fleſhy, ſweet grape, called ſo becauſe they keep well,

and you have of theſe always lateſt in winter.

41. Crispata; this I ſaw no where but in the phyſic garden at Montpellier: a good ſweet white grape; called ſo from its jagged leaves, and I ſuppoſe the ſame with our parſley grape in England.

At Marmouſtier, the great abby of Benedictins near Tours, I ſaw in their garden a ſort of grapes pretty ripe, which they called raiſins de Ste. Magdalene, becauſe they uſed to be ripe about that time, which is the 22d of July.

Upon the ſkilful mixture of theſe ſeveral ſorts of grapes, as well as on the propriety of the ſoil, depends in a great meaſure the goodneſs of their wine: though, as far as I could obſerve, it was not ſo far improved as it might; nor any other great care taken, but that there ſhould be always a mixture of white grapes when they made their red wine, which will otherwiſe be too thick and deep-coloured: and therefore if they have a ſufficient quantity of claret or piquardan grapes in their vineyards, they ſeem not over curious of an exact proportion of the other ſorts, which are planted there promiſcuouſly.

When their grapes are ripe, and they have leave, they cut them, carry them home, and tread them immediately; for they will not keep without ſpoiling: this is the reaſon they muſt have leave; for the parſon being to have his tithe, and of that make his wine, if the pariſhioners were not obliged to vintage all at the ſame time, he could not make wine of his ſhare, ſince one parcel of grapes could not ſtay till the other was cut to be preſſed with them.

The grapes being brought in great tubs, either on mules or mens backs, to the place where the wine is to be made, they put them in a kind of grate over the kuve, and there tread them till they are all broken, and then they throw them, huſks, ſtalks, and all, into the kuve; and thus till all their whole crop of grapes are trod.

When all the maſs is in the kuve, they let it work there one, two, or three days, as they think fit to have their wine: the longer it works, and the more ſtalks are in it (for ſometimes they put them not all in) the rougher and deeper-coloured will the wine be, but keep the longer.

When it has wrought its time in the kuve, they put it into buts, and there let it work as long as it will, filling up the working veſſel every day with ſome of the ſame muſt kept on purpoſe, for it waſtes much in working.

Of the marc (which is huſks, ſtalks, and other ſediment left at the bottom of the kuve when the muſt is taken out) they make a worſe and coarſe ſort of wine for the ſervants, and this they preſs as we do our apples to make cyder.

The ſtones, after preſſing, ſome people cleanſe from the reſt of the marc, and ſell for food for pigeons: the ſtalks alſo cleanſed, they uſe in making of verdigris. And in ſome places they take the remaining marc after preſſing, put it in great tubs, and cover it with water, keeping the marc down with weights, and of this they give to their horſes, which very much cools and refreſhes them there in the hot ſeaſon. This may give one reaſon to conſider, whether any ſuch uſe might be made of the marc of our apples after making cyder.

When they have a mind to have their wine fine ſooner than ordinary, they put into the caſk a pretty good quantity of ſhavings of fir, and in ſome places of hazel, and with it they ſometimes put ſome whole white grapes.

A little bread or oil (they ſay never ſo little, and therefore they are very careful in this point) mixed with the muſt, turns the wine to vinegar; and ſo does thunder: but they ſay iron laid upon the veſſels will keep wine from ſouring by thunder.

The kuve is in ſome places a great veſſel made of wood (witneſs the great kuve that is yet to be ſeen at Marmouſtier, which, they ſay, will hold two hundred tun of wine) as our brewers veſſels for the working of their kuve is in England. But at Montpellier it is uſually a place made in the ground in ſome part of the houſe, proportionably big according to the quantity they ordinarily make, and lined with plaſter of Paris to keep it from leaking. In the kuve (which is made uſe of but once a year) as well as all other parts of their making wine, they are, according to their manner, ſufficiently naſty: the grapes often are alſo very rotten, and always full of ſpiders. Beſides that I have been told by thoſe of the country, that they often put ſalt, dung, and other filthineſs in their wine to help, as they think, its purging. But without theſe additions, the very ſight of their treading and making their wine (walking without any ſcruple out of the grapes into the dirt, and out of the dirt into grapes they are treading) were enough to ſet one's ſtomach ever after againſt this ſort of liquor.

In ſome parts of Languedoc, out of the great roads, their wine is ſo cheap, that one may ordinarily buy three pints a penny.

It is uſual to ſet fig-trees, pear-trees, &c. up and down in their vineyards, and ſometimes I have ſeen olive-trees. Here at Montpellier, as in other parts of France, it is no diſcredit for any man to hang out a buſh at his door, and ſell his wine by retail, either to thoſe that fetch it out of doors, or will come and drink it at his houſe; for which they uſually, for that time, ſet apart a room or quarter of the houſe, and have a ſervant on purpoſe to attend it. This I have known both gentlemen and churchmen do. But whoever in Languedoc ſells his own wine at his houſe, muſt not afford his cuſtomers ſo much as a bit of bread or any thing elſe to eat with it; for then it will come under the notion of a cabaret or common drinking houſe, and their tax or exciſe overtake them. I mention Languedoc, becauſe in other parts of France they who ſell their own wine by retail are not excuſed from paying the king a part of what they ſell it for. At Saumur I remember I was told, they then ſold their wine (which is a very good ſort of white wine) at their buſhons, i. e. private houſes, for 18 deniers per pint, which is more than our quart, out of which 18 d. the king had 10 d. and the proprietor the remaining 8 d.

OIL.

THE ſorts of olives, as well as grapes, are very various about Montpellier: the names of ſome of them are as followeth;

1. Grooſau, a large olive.
2. Pichulina, little.
3. Verdal, middle-ſized.

Theſe three ſorts are good to eat, and the laſt alſo is good for oil, and a great bearer.

4. Olivera.
5. Corneau.
6. Salierna. Good bearers.
7. Clarmonteſa.
8. Redonau.
9. Bootiliau.
10. Argentau.
11. Moorau.
12. Marſilieſa.
13. Pigau.

All theſe are little olives, and uſed only for oil: they plant them promiſcuouſly in their olive-yards, and mingle the olives in making oil. That which they principally regard in the plants is, that they be of the ſorts that are the beſt bearers, and if they have not enough of thoſe, they plant others, and inoculate them. The ſlips will grow, but they commonly uſe off-ſets from the roots.

Their time of planting is February, March, and April. Their olive-trees laſt to a great age; they ſay two hundred years. When the old ſtocks are faulty or decayed, they let up young off-ſets from the roots round about, and when they are grown up to any conſiderable bigneſs, cut away the old ſtock cloſe to the ground; and when the remaining young trees have not room to ſpread, becauſe of their neighbourhood, they tranſplant them, till they leave at laſt but one ſtanding.

They ſet their olive-trees ordinarily in quincunx, the rows at thirty or forty feet diſtance in their arable ground; for this hinders them not from ploughing and ſowing corn in the ſame ground.

They dig about their olive-trees every year, and about the ſame time they dig their vineyards, and ſometimes at others; and lay ſoil in the trenches they open about their roots: this is uſually done in March, and the ſoil they uſe is horſe-dung.

In pruning their olive-trees, which they do about the beginning of March, I obſerved them to cut off the top branches, I ſuppoſe to make them ſpread.

About the beginning of October they gather the olives, yet green, that they intend to pickle for eating (for about the end of October they turn black) and having carefully picked out thoſe that have worms, they ſoak the ſound ones, in the ſtrongeſt ley they can get, four, ſix, or eight hours, according as they deſign to eat them ſooner or later:

the longer they ſoak in the ley the more of their bitterneſs is taken away, but they will keep the leſs while. This ley they buy for this purpoſe at the ſoap-boilers. After they have been ſoaked in ley, they put them into water, which, for the three or four firſt days, they change two or three times a day, and afterwards once; in all a fortnight: this they do to take away the taſte of the ley. The ley and water they uſe both cold. When this is done, they put them into pickle of ſalt and water, and ſo keep them.

I HAVE been told, that cutting each olive in two or three places to the ſtone, and ſo ſoaking them in fair water ſeven or eight days, changing it every day, will take away their bitterneſs, and prepare them well enough for the pickle: but they count the ley the better way.

They often pickle them alſo after they are turned black, cutting them in two or three places to the ſtone, and then ſoaking them about a fortnight in water changed every day, and then boiling them in ſalt and water, which is the pickle they keep them in. Theſe have a much worſe taſte than the green, having no very pleaſant mixture of bitter and oily: but the good houſewives think they will go much farther (for they are oftener food than ſauce there) and ſo in their private families are commonly uſed.

They count their olives ripe enough for oil about St. Catherine's day, the 25th of November, and about that time they begin to gather them: though I have ſeen them let them hang on the trees, and not gathered till the latter end of January.

In the gathering there will be leaves and branches mixed with them, to ſeparate theſe they lay them down in a heap in a field, and a workman, taking up a few in a ſhovel, throws them into a winnowing ſheet ſet up at a good diſtance from him, whither the olives come alone, the leaves and branches fall by the way.

The manner of making oil is this:

They take four ſepties of olives a little heaped, and put them into a mill, which is drawn by a mule, where they grind them, as tanners grind bark, to a fine pulp, one ſtanding by as the mill goes round, and ſhoveling in a little of the olives or pulp towards the center, and clearing a part of the ſtone at the bottom, where he ſtands with a ſhovel, which he doth ſo by degrees and in ſucceſſion, that I believe the mule goes round forty or fifty times for his once.

They being ſufficiently ground, they put them into a ſtone trough, two whereof ſtand between the mill and the preſs; out of theſe troughs they take the pulp, and put it into frails, and ſpread it in them equally, ſo that they may lay them plain one upon another. Of theſe frails there were, when I ſaw them preſs, twenty-four upon each pedeſtal; viz. in all forty-eight; in which were contained ten ſepties of olives. Sometimes they preſs twelve ſepties of olives at once, and then they uſe more frails proportionably.

The frails being filled with pulp, and placed evenly and upright upon the two pedeſtals in equal number, they ſet the preſs a-working, firſt lifting up the ſcrew end, that ſo the other end of the beam, ſinking upon the hinder pile of frails, and preſſing them, may make way for the putting in the wedges into the great mortiſe, and diſcharge the wedge in the little mortiſe, which, whilſt they were placing the frails upon the pedeſtals, ſupported the beam, which being taken out, they work the ſcrew the other way, and ſo bringing down the ſcrew end of the beam preſs both on the fore and hinder pile of frails; a man attending in the mean time at each pile of frails with a lever in his hand, which reſting in the groove or gutter where the oil runs, he thruſts againſt the ſide of the pile of frails, whenever he perceives it begin to ſwell out on any ſide, and thus keeps it upright from leaning any way whilſt it is preſſing, eſpecially at the beginning: another man in the mean time not ceaſing to turn the ſcrew till the great ſtone at the end of it be clear off from the ground.

When the oil ceaſes to run, or but in ſmall quantity, they lift up the ſcrew end of the beam, and then putting a wedge in the little mortiſe, bring down the ſcrew end of the beam again, and ſo lift up the great end that preſſed the frails, and ſo bringing the beam to a level (the whole weight whereof lies upon the wedge in the little mortiſe, which ſupports it in the middle) diſcharge it clear from the frails.

Then they take off all the frails, except the eight or ten lower, on each pedeſtal, and ſtirring the pulp in one of the frails taken off, replace it again upon thoſe that remained ſtill on the pedeſtal; and then one pours on it a bucket of ſcalding water; after which he ſtirs the pulp again, and lays it flat and equal as at firſt, and then ſtirs and puts on another frail as before, with a bucket of ſcalding water poured on it; and ſo they ſerve them all, till all the frails that were taken off are replaced on the two piles as at firſt; and then they ſet the preſs a-working again as long as any quantity will run; and then lifting up the beam again, take off all the frails, ſtir the pulp, and pour on freſh hot water upon every frail, a little bucket-full as at firſt, and then preſs as long as any thing will run, ſcrewing the ſtone up clear from the ground, and letting it hang ſo a good while. When not one jot more of liquor will be preſſed from the frails, and they perfectly ceaſe running, they let down the ſtone, and that preſſing is done; and then one with a broad, but very ſhallow ſkimming-diſh of braſs ſkims off the oil from the water, puts it into a braſs veſſel like a tumbler, but holding, as I gueſs, about three pints, and out of that pouring it into the veſſels of the owners by a braſs funnel.

When the oil is well ſkimmed off from the water, they pull out a ſtopple in the bottom of the ciſtern, and ſo let go the water, which runs into a great ciſtern called hell, which is locked up and out of ſight: into this hell all the water that hath ſerved in preſſing the oil runs, and is made ſo, that though it be always full of this water, yet the water alone runs out, and the oil that ſwims on top ſtays behind, by which means all the oil that eſcaped the ſkimming-diſh is here caught: but this I ſuppoſe belongs to the maſter of the oil-preſs, for every body's water runs in here to the former oil and water.

N. B.

I°. That the mill which grinds the olives is much after the ſame faſhion with that which our tanners uſe to grind bark; only with ſome difference.

As, 1°, that in the center of the oil-mill there ſtands up a round ſtone, very ſmooth and true wrought, about two feet Engliſh in diameter, and about the ſame height, which the inſide of the great grinding ſtone touches in its going round about it, ſo that no olives can eſcape the great ſtone towards the center, nor get beſides it that way.

2°. THAT the floor of the mill, upon which the great turning ſtone bears in its turning round, is alſo of hard ſtone and ſmooth and a little ſhelving, the declivity being towards the center; to anſwer which the edge of the turning ſtone which is to grind the olives, that it may bear in its whole breadth upon the ſtones in the floor, is not cut with a direct perpendicular to the ſides, but the line of the inſide of the ſaid grinding ſtone, and of the edge or circum-

ference,

ference, make an angle ſomething leſs than a right one, and on the outſide there is left no angle, but it is cut off with a round; by which means I ſuppoſe the great grinding ſtone ſlides conſtantly towards and is kept cloſe to the round ſtone that ſtands fixed in the center, deſcribed N° 1°, upon which the perpendicular turning beam ſtands.

3°. So much of the floor or inſide of the mill as the grinding ſtone does not touch, or is a little without his breadth, is covered with boards lying more ſhelving than the ſtone-floor within it; on which board-floor the olives to be ground are at firſt laid, which are not thrown all at once under the grinding ſtone, but are by ſmall parcels ſhovelled down under the grinding ſtone by the man that attends the mill; every paſſing round of the ſtone a few; and here lies alſo the pulp which the ſtone works out in its grinding, which is alſo ſhovelled in in its turn; for the floor of the mill, where the grinding ſtone bears on it, has always very little upon it, its great weight working it ſtill out towards the circumference of the floor, for the ſtone in the middle hinders it from going inwards.

4°. THE grinding ſtone is about ſix feet diameter, and about eleven inches thick, and on the edge and inſide is wrought very ſmooth, and ſtands upright without leaning, that I could perceive; though, as I have ſaid, the edge be not ſquare to the ſides, which is recompenſed in the ſinking of the floor towards the center. The ſtone whereof it is made ſeems to be very hard, and it need be hard and heavy to break olive-ſtones and grind them to powder.

II°. That the ſhovels which they uſe to ſhovel in the pulp under the grinder, and when it is fine enough to take it out, and put it in the ſtone troughs, and then into the frails, are more like bakers peels than ſhovels, and there is not any iron upon any of them.

III°. That there are between the mill and the preſs two great ſtone troughs to put the pulp in when ground; two pedeſtals and two ſtone ciſterns, into which the oil runs from the two pedeſtals by diſtinct paſſages, ſo that two peoples oil may be preſſed at once without the danger of mingling a drop.

IV°. The preſs is made thus: there are two pedeſtals about nineteen or twenty inches aſunder, which lie juſt under the great end of the great beam; that which I call a pedeſtal is a round plain ſtone about twenty-ſix inches diameter, round about which is cut a groove or little trench in the ſame ſtone nine or ten inches broad; from the groove of each pedeſtal there is made a diſtinct paſſage for the oil to run to the two ciſterns: upon theſe pedeſtals the frails are laid, and into theſe grooves or trenches the oil runs when preſſed out of the frails, and ſo is conveyed ſeparately to the two ciſterns.

V°. Behind the hindmoſt pedeſtal ſtand erect in the ground two great beams, well faſtened in the ground, as far on ſunder from each other as the breadth of the preſſing beam which is to paſs up and down between them. From the neareſt ſide of the neareſt pedeſtal to the middle of the thickneſs of theſe beams horizontally is about twenty-nine inches: in the middle of each of theſe beams, in reſpect of their thickneſs, is cut a mortiſe or ſlit quite through, about forty-four or forty-five inches long, and about five or ſix inches broad; the bottom of this mortiſe is about forty-four inches higher than the pedeſtal.

VI°. This which I call the great mortiſe, they fill with ſeveral pieces of wood reaching quite athwart from outſide to outſide, and more, of the two erect beams; theſe pieces of wood, or, as I call them, wedges, are as thick as juſt eaſily to go into the mortiſe, and ſomewhat broader; with theſe they fill up this mortiſe when this end of the preſſing beam is ſunk below the loweſt part of it, and thereby pin down the great end of the ſaid beam to keep it down upon the frails, when the other end is drawn down by the ſcrew; for by more or leſs of the wedges put into this mortiſe, they keep down the great end of the beam to the height that is fitteſt to preſs with.

VII°. THE preſſing beam is thirty-eight pans, or about thirty-two feet long, and about thirty-four inches broad, and to increaſe its weight and ſtrength another great beam was faſtened to it all along with bands of iron.

VIII°. AT the little end is a ſcrew, whereof the very ſcrew (for it ſtanding upright I could not meaſure it) was, as I gueſs, about thirteen or fourteen feet; the ſquare of it, wherein the holes for the levers were cut, ſomething above a yard; and at the bottom was a great round ſtone, in which this lower end of the ſcrew is faſtened with iron-work, ſo as to have the liberty to turn. The ſcrew, when it is turned faſter than this end of the preſſing beam ſinks, lifts up this great ſtone from the ground, which is as broad, thick, and heavy as an ordinary mill-ſtone.

IX°. Between the ſcrew and the two erect beams placed behind the pedeſtals before deſcribed, ſtand two other beams, erect as the former, with a mortiſe in them long enough to hold one only wedge; this I call the little mortiſe, the top whereof is higher than the level of the higheſt frail, when they lay on moſt: upon this wedge the beam is to reſt, when they are laying in or taking out the frails. So that the length of the great beam is thus divided; behind the pinning wedges three pans, from the pinning to the ſupporting wedge twenty pans, from the ſupporting wedge to the ſcrew fifteen pans.

There is a piece of wood faſtened on to the great beam, croſs it, hanging over on each ſide, and placed juſt by the middle erect beams on the ſide towards the pedeſtals, to keep the great beam from ſliding towards the ſcrew.

X°. The ground where the great ſcrew-ſtone lies is much lower than the level of the pedeſtals, which affords alſo a convenience for the placing the two ciſterns, which are juſt under the great beam and a little diſtance from the outmoſt pedeſtal.

XI°. The matter of the frails they uſe in preſſing and the texture is the ſame with the frails that bring raiſins to England; but the figure juſt the ſame with that of an hat caſe, the crown being taken away: they are exactly all of a breadth, and ſcarce diſcernibly narrower than the pedeſtals; the hole to put in the pulp about one third of the breadth or diameter.

XII°. The oil that runs at firſt preſſing, before the mixture of water, they call virgin oil, which is better than the other; but they all ſay it will not keep, but ſpoil in a month or two, unleſs you put to it ſalt or ſugar, ſalt is the better of the two, and then it will keep ſix months: as much as you can hold in your two hands is enough to put into a ſeptié of oil.—A ſeptié is thirty-two pots, and their pot is more than our quart.

XIII°. They uſually, therefore, let the virgin and other oil of the ſecond and third preſſing mingle all together in the ciſtern, which being afterwards put up in jars, and kept in cool cellars, will keep good ſeven years: but the mingling of ſome of the hot water, after preſſing, with the virgin oil will not preſerve it. So that it ſeems to be ſomething either in the ſkins or ſtones of the olives, that comes not out but by the mixture of hot water and hard preſſing, that ſerves to preſerve it.

XIV°. They begin to gather their olives, as I have ſaid, about St. Catherine's day, i. e. the 25th of November.

XV°. All confeſs that oil is better which is made of olives freſh gathered than thoſe that have been kept a month or two: but ſome tell me they delay ſo long (for when I ſaw them making oil it was almoſt the middle of February) becauſe olives that are kept yield the more oil; others ſay, the reaſon why they are not preſſed ſooner is, becauſe every body's griſt cannot be ground at once, and they muſt ſtay till they can get a turn; and by keeping they ſay alſo they grind better, for the new gathered ſpirt away from the mill.

XVI°. After they have gathered their olives, they lay them in heaps in the corner of a cellar, or ſome ſuch other place, upon little faggots of dried vine branches (a good part of the fuel of the country) between the olives and the ground, where ſometimes a black water will run from them; this they call purging them. In theſe heaps they lie till they preſs them: none lie leſs than fifteen days; but, for the reaſons above mentioned, they ſometimes lie two months.

XVII°. Though they begin to gather their olives about the end of November, as has been ſaid, yet they never ſet their mills on work till after Twelfth day or New Year's day at ſooneſt: the reaſon whereof is this; the maſter of the mill hires a great many men for the time that oil is made, who keep the mill going day and night. Thoſe whoſe oil is making give theſe workmen meat and drink, whilſt they are employed about their olives; ſo that if the maſter ſhould entertain them before Chriſtmas, he muſt not only pay them for ſo many holidays whilſt they ſtand ſtill, but maintain them too.

XVIII°. FOUR ſeptiés of olives uſually yield one ſeptié of oil: but I obſerved they were ſomewhat heaped.

XIX°. THE goodneſs of the oil depends exceedingly on the property of the ſoil: this makes the oil of Aramont in Provence, not far from Avignon, the beſt in France.

XX°. When they are either filling the frails or new ſtirring the pulp in them, there are two men at work at each pedeſtal, beſides a fifth that takes the pulp out of the trough thereby, wherein it lies ready ground, and with a ſhovel puts it into the frails as they bring them; or elſe lades boiling water out of the furnace (which is alſo by, and the top of it level with the ground, with a trap-door cover) and pours it into the frails as they are ready for it.

XXI°. When the oil is made, carried home, and has ſettled, they uſually take three-fourths of the upper part; this they call the flower, and put it in earthen pots for eating; the remainder, being thicker, is kept for lamps and ſuch other uſes: and the very thick ſediment they put in the ſun, to get as much oil out as they can.

XXII°. THE pulp that is left after all the preſſing and affuſion of boiling water belongs to the maſter of the mill, who ſells it for a groat or five pence a mill-full to others, who preſs it again, and make a coarſe oil for ſoap and other ſuch uſes.

XXIII°. THE remaining pulp the bakers uſe to throw a little of it into their ovens as they are heating, it making a very violent fire.

XXIV°. OIL they count one of the beſt and ſureſt commodities of their country. The ordinary rate of good oil at Montpellier is ſome years three, ſome four, and ſome years four livres and a half per quartal, i. e. one fourth of a ſeptié, or eight pots.

FRUIT.

PLUMBS.

THE beſt plumbs are,

1. Perdrigon.
2. D'Apricot.
3. Diapré.
4. Ste. Catherine.
5. Vert & long.
6. Damar violett.
7. Roche corbon.
8. Mirabell.
9. Catalane.

Of theſe the beſt to dry is the roche corbon, a large red plumb; and the next to that the Ste. Catherine, large and yellow; becauſe they are large and fleſhy: not but that they dry of the other ſorts too.

The way they take in drying them is this:

1°. They let them be ſo ripe that they drop off from the tree of themſelves, which is beſt, or elſe fall with a little ſhaking.

2°. When you have them thus ripe, the beſt way (though not always obſerved) is to put them two or three days in the hot ſunſhine, which will dry up gently ſome part of the ſuperfluous moiſture.

3°. When they have been thus a little dried in the ſun, you muſt heat the oven gently; one little bruſh faggot is enough the firſt time; and having placed them ſingle upon wicker driers about two feet broad and four or five feet long (or of a round figure ſo large as will go into the oven's mouth) put them into the oven, and ſo let them dry there till the oven is cold; and then they muſt be taken out and turned, whilſt the oven is heating again. The oven may be thus heated twice a day, at eight in the morning and at eight at night.

4°. THE ſecond time the oven may be made a little hotter than the firſt; and thus the heating of the oven and turning the plumbs be repeated till they are dry enough, which is when they are of a due conſiſtence and browniſh colour.

5°. **When** they are ſo far dried as to be capable of preſſing, the beſt way is to preſs them gently with the fingers, not into a flat, but round figure, for that way they keep beſt.

6°. **The** great care to be taken is in the firſt putting them into the oven, that the oven be not too hot, for if it be it makes them crack their ſkins and run out, which makes them much worſe.

P E A C H E S.

After the ſame manner one dries peaches, with this difference, that after the firſt time they have been in the oven, one peels them with a knife, for the ſkin will eaſily ſtrip; and the ſtone then is to be taken out, and if one will, a little peach thruſt into its place, which makes the other large and better.

This alſo they often do in drying their plumbs, when they take out the ſtone of a great one, thruſt a little plumb into the place of it.

PEARS.

THUS alſo pears are to be dried; but that the oven may be made a little hotter for pears than plumbs: they are to be ſtripped alſo after their firſt coming out of the oven.

THE beſt pears to be dried are the rouſelette de Champagne.

THE pears in moſt eſteem amongſt them about Tours and Saumur (for this is the part of France where are the beſt pears, plumbs, peaches, and melons) are,

1. Moule bouche.
2. Virgoleuſe.

3. Martin ſec.
4. Double fleur.
5. Rouſelette.
6. Colmar.
7. St. Marſiac.
8. Vert & long.
9. Burée blanche.
10. Rouſelette de Champagne.
11. La poire de citron.
12. La citron de carmes.
13. La poire de monſieur.
14. La verate.
15. L'amadote muſquée.
16. La muſcate d'Almagne.

The 10. 11. 12. 13. are their beſt ſummer pears.

The Virgoleuſe,
Verate,
Amadote muſquée,
Muſcate d'Almagne,

are their beſt winter pears.

In the Recolets garden at Saumur there is abundance of good fruit, amongſt the reſt a ſort of pear which they call

17. Poire ſans peau,

which is ripe at the ſame time cherries are. They told me it was a very good pear, and a great bearer. Before the middle of Auguſt, when I was there, they were all gone.

They have in the ſame garden another pear, which the call

18. Poire de jaſmin,

which, as they ſay, hath ſomething of the flavour of jaſmin.

MELONS.

The melons of Langers (a town upon the Loire, ſix leagues above Saumur) are counted the beſt in France; and from hence the court is ſupplied with them. Here and at Saumur (where they are loth to give any preference to the melons of Langers) they ſet them in the common earth of their gardens without dung, or any other art, but barely nipping the tops of the branches when the young melons are knit, to hinder the ſap from running too much into leaves and branches.

P R U N E S.

THE prunes we have from France are a great black plumb that grows about Montauban and thoſe parts: they dry them as much as they can in the ſun, and what wants to dry them perfectly they make out by the heat of the oven.

PRUNELLAS, or rather brignols, are a ſort of plumbs that grow in Provence, not far from Aix: they gather them thorough ripe, and having ſtripped off their ſkins they ſtick them on ſcuets about ſix inches long and very ſlender; they take care not to put them too cloſe to one another on theſe ſcuets. Theſe little ſpits, loaded thus with plumbs, they faſten one above another, either in a cane, or a rope of ſtraw like that we make for onions; and as we hang them up in our houſes to keep, ſo do they thoſe in the ſun to dry.

When they are a little hardened, or half dry, they take out the ſtones, and preſs them with their fingers into that flat figure we ſee them, wetting their fingers a little to hinder them from ſticking to them in handling: when this is done, they put them to dry again in the ſun till they are quite cured; ſome ſay on the ſcuets again, others on boards. Thoſe that grow at Brignol are the beſt, and hence they have their name.

They ſometimes dry them with their ſtones in, and ſo they are better, as ſome that have eaten of them have told me.

SILK.

THEY uſually put the eggs a hatching in the holy week, i. e. the week before Eaſter; but that which beſt regulates the time is the budding of the mulberry-trees, that when the worms are hatched they may have food.

To hatch them, they commonly wrap them up in a linen rag, and ſo wear them in ſome warm place about them night and day till they are hatched, which will be in about three days.

When they are hatched, they feed them with the leaves of the white mulberry-tree: the leaves of the young trees are beſt whilſt the worms are young; but when they are grown pretty big, and towards the latter end of their feeding, they muſt be fed with the leaves of old trees, elſe they will not be ſtrong to get up into the branches to work. The leaves of young trees given them in the beginning makes the ſilk the finer: they take care alſo not to give them yellow or withered leaves; but to avoid the trouble of gathering freſh leaves every day, they will keep two or three days well enough in an earthen pot covered, or in a cellar.

They take great care alſo that no wet leaves or other moiſture come to them, for that will kill them; and in feeding them they throw away the tender deep-coloured young leaves at the top of the branches, becauſe theſe, they ſay, will make the worms very big and yellow, and die alſo without working.

WHILST they are young, they keep them up in ſome box or cheſt from the cold, which will kill them: they ſay alſo that thunder will kill them, if it happen when they begin to work.

THEY change their ſkins four times from ten days to ten days, or thereabouts; this they call their ſickneſs; for about the time they change their ſkins they forbear to eat, and therefore they feed them but once a day; but at other times they give them freſh leaves oftener. At the time alſo of their ſickneſs they change them, taking away the cake of dry leaves and dung that was under them, by removing them with freſh leaves, which they will ſtick to: but after the fourth ſickneſs is over, they change them every day till they begin to work, which is about ten days after.

THE woman of the houſe where I lay put her eggs to hatch on Good Friday, April the 3d; they were hatched the Monday following, and they began to work on Tueſday, June the 2d: ſo that, allowing one day for every ſickneſs, it fell out pretty near according to their reckoning.

WHEN the worms are ripe as they call it, they cull out the ripe ones, i. e. thoſe that are ready to work, from among thoſe that are feeding, and put them upon ſhelves, where they are to work, They know thoſe that are ripe by their clearneſs; for if you hold them up againſt the light with their bellies upwards, you will find them clear about the fore legs, ſome yellow, ſome white, according to the ſeveral colours of the ſilk they will ſpin; and by this clearneſs one may eaſily diſtinguiſh them from thoſe that are not yet ripe.

The ſhelves they put them on to work are thus ordered; they place deal ſhelves one over another, as if they were for books; they make them about thirty inches broad, and the diſtance between them is about twenty-two inches: betwixt theſe ſhelves they ſet up rows of a ſmall bruſhy plant, ſomewhat like our heath, which reaching from one ſhelf to another are at the top turned partly one way, partly the other; ſo that the tops of the branches of theſe ſeveral rows or partitions reaching to one another touch, ſo that the whole length of each ſhelf is by theſe branches divided as it were into ſo many little caves, each of about nine or ten inches breadth; for the rows of branches that are ſet up to make theſe caves, which are as deep as the ſhelves are broad, are ſet at that diſtance. Into one of theſe caves they put the worms that are firſt ripe, which creeping up the branches find amongſt the little twigs places to work in. When one cave has as many of theſe ſpinners as it hath well room for, they fill the next, and ſo on.

They never give them any leaves of the red mulberry-tree when they are young, becauſe it being a ſtrong nouriſhment, will hurt them; but if one give them red mulberry-leaves towards the latter end, they will be the ſtronger, and mount the branches the better, which when they are weak they cannot do; and the ſilk of thoſe that thus eat red mulberry-leaves is as good as the other.

About a fortnight after they begin to work, they take the cocons (i. e. the pods of ſilk they have wrought) out of the branches; if you take them down too ſoon, they will not have done working, and if you ſtay too long, they will have eat their way out of the pods, and the ſilk will be ſpoiled. It is time to take them down out of the branches as ſoon as any of the papilions, i. e. the flies that come out of the pods, appear amongſt them.

As many of the cocons as they think neceſſary to keep for a breed for the next year, they ſtrip off the looſe ſilk from, and then thread them; but paſs the needle warily through the ſide of the cocon, ſo as it may be ſure not to hurt the worm within. They count that a pound of cocons will yield an ounce of eggs. The cocons, thus threaded, they hang up or lay in a convenient room, that ſo the papilions may come out, and make love to one another, and then lay their eggs on white paper laid there on purpoſe.

FROM the remaining cocons they either preſently wind off the ſilk, or if they cannot do that (for it is not every body can do it) they either with the heat of the ſun, or an oven, or hot water, kill the worms in the cocons, that ſo they may keep them without having them ſpoiled by the worm, till they can get their ſilk wound.

EIGHT pounds of cocons uſually yield one pound of ſilk.

THE way of winding ſilk off from the cocons is a thing that cannot be taught without ſeeing; and there are but few amongſt them that can do it well, it lying in a dexterity not eaſy to be learnt, as they ſay: they put the cocons in hot water, and ſo ſtirring them about with a kind of a rod, the ends of the ſilk twires of the cocons ſtick to it, which they laying on upon a turning reel draw off from the cocons, which lie all the while in the hot water; but the great ſkill is to have ſuch a number of theſe ſingle twires of the cocons running at a time, as may make the thread of ſilk which they compoſe of a due bigneſs; for in turning (which they do apace) many of the twires of the cocons break, and ſo by degrees the ſilk thread, made of ſundry of theſe drawn together, grows too little, and then the woman that is winding ſtirs her rod or little beeſom again with her left hand amongſt the cocons, to get new ends of twires to add to the thread, which all this while keeps running. To know when to make this addition of new twires and in what quantity, ſo as to keep an even thread all along, is the great ſkill of theſe winders; for they do it by gueſs, and keep the reel turning and the thread running all the while; for ſhould they, as oft as is occaſion, ſtand ſtill to count the twires or conſider the thread, and how many new twires were fit to be added, it would be an endleſs labour, and they could never make wages.

The engines alſo that they uſe for twiſting this ſilk afterwards are too curious to be deſcribed, but by a model. I have ſeen one, where one woman has turned a hundred and thirty-four ſpindles and twiſted as many threads at a time; and I have ſeen another, wherein two women going in a wheel, like that of a crane, turned three hundred and ſixty.

THEIR mulberry-trees, where they ſtand near towns, yield them good profit: I have known the leaves of four white mulberry-trees (ſome whereof were not very large) ſold for a piſtole, i. e. between ſixteen and ſeventeen ſhillings ſterling.

THE END.

G.R. III
BR. MUS.

PRINTED BY RICHARDSON AND CLARK,
IN FLEET STREET, LONDON.